Case report

Herpes Zoster with Post Herpetic Neuralgia - A Case Report

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Abstract Herpes zoster is a transient disease characterized by a dermatomal rash that is usually associated with significant pain. Post-herpetic neuralgia (PHN) is the term used for the condition that exists if the pain persists after the rash has resolved. Advanced age and compromised cell-mediated immunity are significant risk factors for reactivation of herpes zoster and the subsequent development of PHN. This is a case report of herpes zoster with post herpetic neuralgia in a 60-year-old male patient with multiple blisters on the right side of the face which was treated with valacyclovir 1000mg and carbamazepine 300 mg.

Keywords: Herpes zoster, Neuralgia, Post herpetic neuralgia

How to cite this article: Mohammad A, Rani Y, Ganesh SL, Joseph R. Herpes Zoster with Post Herpetic Neuralgia - A Case Report. JRDC 2025;8(1): Herpes Zoster with Post Herpetic Neuralgia - A Case Report. JRDC 2025;8(1):

Source of funding: Nil **Conflict of Interest:** None

INTRODUCTION

Herpes Zoster (HZ) is a short-term, self-resolving viral infection affecting the nerves and skin, resulting from the reactivation of the Varicella Zoster Virus (VZV), which remains dormant in the dorsal root ganglion.[1] This condition is marked by a temporary dermatomal rash that is typically linked to considerable pain.[2] Postherpetic neuralgia (PHN) is a painful syndrome that can develop in individuals after experiencing an acute herpes zoster infection, commonly known as shingles.[3] Postherpetic neuralgia is a long-lasting painful condition that may develop after herpes zoster, which is a highly painful skin rash resulting from the varicella zoster virus. This condition is most commonly seen in older adults and individuals with weakened immune systems.[4] Patients suffering from PHN experience a diminished quality of life, and it is linked, either directly or indirectly, to elevated levels of anxiety and depression.[5] Reactivation of the varicella zoster virus occurs in the dorsal root ganglion. Various treatment options have been explored; however, pharmacological therapies frequently face limitations due to adverse effects, and interventional methods have produced inconsistent outcomes without reliably demonstrating long-term advantages. A dorsal root ganglion stimulator presents a new treatment alternative for postherpetic neuralgia, as it can specifically focus on the impacted region. [6]

CASE REPORT

A 60-year-old male patient presented to our department with a primary complaint of pain in the right lower back tooth area of the jaw for the past three months. He reported a history of pain that is throbbing, pricking, and occasionally radiating, accompanied by irritability and numbness in the affected area. The pain began following a tooth extraction in that region. One-week post-extraction, multiple blisters appeared around the corners of his mouth and spread to the right side of his face. He sought consultations from several dentists, but his symptoms did not improve. The patient is not on any medication and has no known medical history. Clinical

examination revealed multiple vesicles at the right corner of the mouth and along the vermilion border of the lips. These vesicles were diffusely spread on the right side of the face, extending to the ear region, with scar formation. Intraoral examination showed no evidence of vesicles; however, upon palpation, the patient experienced tenderness and a tingling sensation on the inner aspect of the labial mucosa and along the ridge area. Deep caries involving the pulp was observed on the tooth in question. Based on the patient's history and clinical findings, a provisional diagnosis of post-herpetic neuralgia was made. The patient was prescribed the antiviral medication valacyclovir 1000 mg and carbamazepine 300 mg for one month. Follow-up appointments were scheduled every 15 days. After three months, the lesions showed healing of all vesicles along with scarring, and the pain subsided within a month.

Fig 1: Vesicular lesions of herpes zoster seen on the right side of the face

Fig 2: showing resolution of the vesicular lesions post treatment

DISCUSSION

Herpes Zoster (HZ), also referred to as Shingles or Zona, is an acute, localized viral infection that is self-limiting and caused by the reactivation of the Varicella zoster virus (VZV). This viral replication occurs when latent VZV which was previously acquired during earlier episodes of VZV infection (chickenpox), reactivates and remains in the dorsal root ganglia neural cells in a dormant state. The virus subsequently disseminates to the skin and mucosa by traveling along the sensory nerve. [7] HZ progresses through three distinct stages: prodromal, acute, and chronic neuropathic; however, some patients may not exhibit symptoms in all stages. The prodromal stage (pre-eruptive stage) is characterized by pain accompanied by mild fever, headache, and dysesthesia. Patil S et al. documented a case of HZ that impacted the trigeminal nerve, resulting in odontalgia. [1] This aligns with our case that reported a history of odontalgia following extraction, accompanied by neuralgia, as well as a burning and tingling sensation along the path of the affected nerve. Postherpetic neuralgia (PHN) is among the most prevalent complications associated with herpes zoster. According to Chawki et al 2020, approximately 20% of individuals with herpes zoster experience PHN.[8] Postherpetic neuralgia (PHN) is characterized by persistent neuropathic pain that continues after the herpes zoster rash has resolved. The incidence of herpes zoster varies among different researchers, ranging from 0.1 to 4.8 cases per million annually. Typically, the pain is associated with the vesicular eruption but usually subsides after this phase. Nevertheless, around 10 to 20% of individuals with herpes zoster will experience postherpetic pain. The likelihood of developing postherpetic pain increases with age: 50% of cases occur in patients over 60 years old, and 75% in those over 70 years. Primary trigeminal neuralgia (TN) is one of the most well-studied types of pain and generally responds favorably to treatment. [5]

Effective pain management is essential in treating both acute herpes zoster and postherpetic neuralgia. For mild to moderate discomfort, analgesics such as paracetamol and nonsteroidal anti-inflammatory drugs (NSAIDs) are suitable options. In cases of severe pain, opioid analgesics like oxycodone or morphine can be considered. For the first-line treatment of postherpetic neuralgia, tricyclic antidepressants (such as nortriptyline or amitriptyline), anticonvulsants (like gabapentin or pregabalin), and lidocaine applied topically may be utilized. [6] Managing PHN presents significant challenges. This condition is complex and exhibits a range of phenotypes. It primarily impacts the elderly, a demographic where comorbidities frequently restrict treatment options. Even when the most effective medications are administered fewer than 50% of

patients experience a substantial reduction in pain (greater than 50%).[9] Multiple pharmacological treatments commonly prescribed for PHN often face limitations due to their side effects, particularly among older adults. Gabapentinoids, for instance, can cause somnolence, dizziness, and edema, resulting in a 10% discontinuation rate for gabapentin and a 20% rate for pregabalin among patients.[6,10] Valaciclovir was evaluated in a multicenter, randomized, three-arm, double-blind study and was compared to acyclovir in patients aged 50 years and older with herpes zoster. Valaciclovir was administered at a dosage of 1000mg every 8 hours for either 7 or 14 days, while acyclovir was given at a dosage of 800mg five times a day for 7 days. The findings indicated that valaciclovir significantly decreased the duration of herpes zoster-related pain in comparison to acyclovir (38 days versus 51 days, respectively), reduced the length of postherpetic neuralgia (PHN), and diminished the percentage of patients experiencing pain at the 6-month mark (19.3% versus 25.5%, respectively).[2]

CONCLUSION

Herpes zoster and post-herpetic neuralgia are both extremely painful and debilitating conditions that often do not respond well to treatment, resulting in psychosocial issues and a reduced quality of life. Although HZ that affects the trigeminal nerve and its branches may mimic other oral diseases, the scomplications from HZ lead to the most severe form of post-herpetic neuralgia. Since PHN primarily impacts older patients, it creates a significant emotional burden that disrupts sleep patterns, potentially leading to drug dependence, depression, and in severe cases, suicidal thoughts. Timely diagnosis and appropriate treatment in the early stages can help mitigate the severity of PHN and improve the disease's prognosis. Additionally, it helps avoid unnecessary dental interventions that are not related to odontogenic issues. To create more effective treatment strategies, a deeper understanding of the causes of these debilitating chronic pain syndromes is essential. Early diagnosis by a qualified oral diagnostician and swift treatment during the initial phase is crucial in preventing the worsening of PHN and enhancing the prognosis of the condition.

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